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AUTHOR Pfeifer, Gary C.; Carlson, Charles E.
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ABSTRACT

Since 1987, Dutchess Community College (DCC), in New York, and IBM Corporation have been forging a partnership which revolves around the Manufacturing Technical Training School (MTTS), a program designed to enhance the skills and education of IBM's production workforce. MTTS's three-phase curriculum has evolved to include the changing training needs of IBM's employees, while at the same time overlapping with DCC's Computer Integrated Manufacturing Program. Employees who complete all three phases acquire 75% of the credits required for an associate degree. The key to successful college-business partnerships is a willingness to resolve conflicts based on the realization that each organization possesses a distinct culture that shapes the assumptions and expectations of individual members. Colleges planning to offer re-education programs with business/industry should recognize that programs carrying academic credit bring more of a college's culture to a partnership than do non-credit programs; be aware that the buyer/vendor relationship with which business is accustomed will not produce successful programs; ascertain the most important aspects of the industry's culture and management style; and develop a pool of faculty who are flexible with regard to extended class hours and off-site locations and willing to accommodate changes in course content. A list of references, enrollment statistics, curricula descriptions, tutoring guidelines, selected final grade patterns, and a chart of mediation strategies are included. (MAB)

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UNDERSTANDING YOUR CUSTOMER'S CULTURE
- The Key to College/ Corporate Partnerships

By
Dr. Gary C. Pfeifer
Mr. Charles E. Carlson
Dutchess Community College Poughkeepsie NY 12601

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INTRODUCTION

This paper will describe a program especially tailored to enhance the education and skill levels of the production workforce of a large, multi-national corporation. We will give a brief history that led to the start of the program and the perils and pitfalls encountered during its implementation.

GOALS

Our goals are to provide a blueprint for the successful implementation of a program designed to educate today's production workforce for tomorrow's industrial requirements. We will also examine problems that occur because of the cultural differences encountered at the diverse levels of involvement. Developing a partnership with your corporate customer, the key to long term success, is a principle goal. Albert M. Lorenzo, president of Macomb Community College says, "Community colleges must aid in the economic development efforts of their communities by providing a specialized training and retraining in association with business and industry needs." He went on to say, "...a proven strategy for workforce development is to expand learning partnerships..."

THE INSTITUTION

Dutchess Community College(DCC) was founded in 1957 as a unit of the State University of New York(SUNY) system. It is a two-year, associate degree granting institution located on a 130 acre hilltop site overlooking Poughkeepsie, New York and the Hudson River valley. The citizens of Dutchess County support the college through taxes and tuition.

DCC is only one of several institutions that serve this area. Vassar, Marist, and Bard College, as well as the State University at New Paltz are all within easy reach of the local population. Several other nearby institutions offer extension programs. These include Rochester Institute of Technology, Union College, Pace College, and Renssalaer Polytechnic Institute.

As a tax supported community college, DCC has an open admissions policy. A stated goal of the college is to afford the many, rather than the few, an opportunity to realize their full potential. The college is fully accredited by the Middle States Association of Colleges and Middle Schools, the American Dietetic Association, the American Medical Association, and the National League of Nursing.

Enrollment consists of 3300 full-time and 4400 part-time students in credit programs. The freshman class totals 1800 students involved in a variety of degree granting programs leading to the Associate in Arts degree, the Associate in Science degree, and the Associate in Applied Science degree. There are both transfer programs and career programs in a variety of subjects ranging from literature, foreign language, physics, mathematics, computer science, and health education, to name only a few.

There are also one year certificate programs e.g., Air conditioning and Refrigeration, Youth Worker, Bookkeeping, etc. Approximately 12,000 students participate in some type of learning activity offered by the college's Office of Community Services.

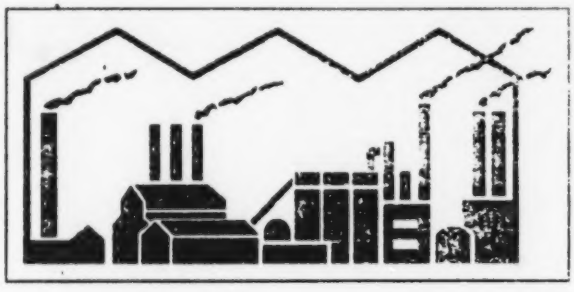
It is interesting to note that since 1987 Dutchess County has had a continual decline in the number of high school graduates. One would expect a similar trend in DCC enrollment statistics. Surprisingly, quite the contrary trend has been experienced as shown in Figure 1, page 24.

THE NEED FOR A NEW PROGRAM

Thus DCC, with a full complement of programs, an excellent 146 member full time faculty and a large adjunct faculty, was in an ideal position to respond quickly when one of the county's largest employers sought its help in developing and delivering an education program to its production workforce. The stated purpose of this program was to develop and enhance the skills and education of the company's employees, and particularly the production employee and his/her management team. The emphasis was to shift more responsibility and independent actions to the worker at the tool level with as little outside intervention from support groups as possible.

The need for this program, named the Manufacturing Technical Training School (MTTS), was driven by the recognition that fierce competition and short development/production cycles no longer allowed traditional methods of managing employees and the production floor to continue. Overlapping responsibilities, multiple support groups, and rapidly changing technologies mandated that change take place - and quickly! Failure to do so would mean following the path of several other local industries

that had gone out of business or moved to other areas of the country to reduce costs. They failed to recognize that more than geographic changes are required to cure an ailing business and they would soon come up against the harsh reality that they had only delayed the inevitable.



Without fundamental changes to the business process most companies would continue to struggle and lose against a tidal wave of foreign competition. It was apparent to a few companies that the production worker had to take a more direct hand in the solution to some of the problems encountered. Whether these are process, machine, or technology problems, the person closest to the problem during production was the machine operator. Unfortunately, this is a role for which few workers are prepared. It was evident that a radical change would have to take place and that the principal instrument for that change would be the re-educating of the workforce.

THE IMPORTANCE OF CULTURE

Why do we feel understanding your customer's culture is important to your success in a business relationship? Our answer is simple. Failure to have this cultural understanding will lead to failure.

Most definitions of culture used in the social sciences are modifications of E.B. Tylor's (1871) definition of the concept as "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society". In its broadest sense,

culture can be thought of as that part of the entire repertoire of human action and its products that is socially as opposed to genetically transmitted.

In anthropology and sociology, culture has long been recognized as a significant determinant of beliefs, attitudes and behaviors. It has been a central variable in the study of different societies. The importance of culture for organizational research, however, has only recently been emphasized. The proposition that organizations have cultural properties, that they breed meanings, values and beliefs, that they nurture stories, myths and legends, and that they abound with rites, rituals and ceremonies, has experienced rapid acceptance and popularity (Allaire and Firsirotu 1984).

Any successful partnership between a college or university and a business organization must take into account the cultural attributes of the partners. The first step in dealing with problems of culture clash is to acknowledge their presence (Buono and Bowditch 1989). Most colleges planning to enter into a training program with a business entity fail to make any effort to access and identify their own culture, let alone the entity they will be working with (Buono & Bowditch).

Some popular use of the concept of organizational culture suggests that differences exist primarily across industries, rather than between organizations in the same industry. For instance, all transportation companies would have similar cultures, as would computer companies, etc. Deal and Kennedy (1982) feel this is too restrictive a view, and formulate four general corporate culture types, the tough guy macho culture, the work hard/play hard culture, the bet-

your-company culture, and the process culture. They examine these types based on two dimensions - degree of risk associated with the companies' activities, and the speed at which companies and employees get feedback on whether decisions or strategies are successful. Similarly, colleges and universities do not have just one type of organizational culture. There can be a substantial variation across academic departments or divisions (a microculture) and based on whether academic credit is awarded. Partnerships that involve programs which carry academic credit generally bring more of the organizational culture (the macroculture) with them, than those that are credit-free.

In writing about corporate mergers and acquisitions, Buono and Bowditch (1989) argue that mergers often fail because of conflicts and tensions that emerge when companies try to combine disparate and frequently dramatically different cultures. Sometimes very minor changes are resisted vehemently because of threats, real or perceived, to the existing culture. Similarly, partnerships between colleges and business can fail because of cultural misunderstanding.

Raelin (1985) examines the clash of culture within organizations, focusing particularly on the clash between employees classified as managers and those classified as professionals. He argues that the conflict between these two groups is the result of a clash of cultures - a corporate culture, which captures the commitment of managers and a professional culture, which socializes the professionals. Professionals, such as scientists, engineers, teachers, are socialized through their discipline and culture to carry out their technical responsibilities as

members of a professional group. Managers, however, undergo a different kind of socialization. Their education tends to emphasize interdisciplinary and practical approaches to problem solving. Managers are expected to learn the bulk of their craft on the job, as opposed to professionals who learn in more formal settings. The corporate culture which strongly influences managers' socialization, defines the managerial role essentially as articulating the goals of the organization and devising procedures to meet them. American corporate culture is oriented to competition and efficiency. Professionals and managers have a different set of expectations from the other, and some of the expectations clash. Raelin proposes a set of mediation strategies for merging professional and management values, thus minimizing the clash of culture (Appendix XX). Partnerships such as the one being described in this paper, can be strengthened and culture clashes minimized, if Raelin's thesis is understood, and some of his suggested strategies implemented. In general terms, the individuals from a business or industry who are entering into the partnership with a college, have a managerial focus, while the individuals who are delivering the program have a professional focus. Many of the conflicts which we have dealt with during the last five years can be directly attributed to the different assumptions and expectations made by managers versus professionals.

THE RESPONSE OF DCC and CURRICULUM DEVELOPMENT

During the year that has passed since this paper was first written our customer has experienced severe financial setbacks with losses in the billions of dollars. For the first time in its history the company has had to resort to

aggressive incentive programs to encourage employees to retire and finally to a layoff of several thousand employees, a cultural no no. These layoffs have a direct impact on many other employers, both locally and around the country, so there is a multiplying effect that makes the impact quite severe.

If there is a bright spot in any of this, it is that the number of MTTS graduates and students were less effected than the workforce as a whole and secondly, the company has not abandoned its commitment to the education of its remaining production workers.

The managers and staff from the technician education department of our customer had a general idea of the objectives they wanted to accomplish in the re-education program. They had attempted a similar program two years earlier with a private, four-year liberal arts college in Dutchess County, but had decided against continuing with that program because the college was unable to fulfill its promise of granting academic credit for some courses. This was a fine example of what not to do, if you want to provide credit programs for Business and Industry.

The Dean of Continuing Education from that college had promised credit for the program, but without getting the approvals from the various academic departments. He also approved the teaching of different content in some of the courses; content which IBM desired to be taught, but which was not defined in the course outline. At the end of the first phase of this program, when transcripts were going to be issued, the problem surfaced and faculty and department heads stated that credit for this or that course could not be granted

since different content was taught. Although an accommodation was finally reached, IBM decided they wanted to do business with someone else and thus, the five-year relationship with DCC, which this paper describes, was born. The Dean of Continuing Education from the four-year college needed to understand the culture of his institution, which includes the faculty as keeper of the keys where credit courses are concerned.

With that experience behind them, the corporation sent a Request for Quote (RFQ) to all local institutions trying to find an offering more in line with their goals. Initially, the corporate education personnel simply took their technical education objectives and, after reviewing the DCC catalog and course descriptions, did an overlay attempting to match content areas and placed these requirements in their RFQ. With that general set of courses in mind, they met with both administrators and academic department heads from the college to discuss in detail their objectives and the specifics of course content. Extended course outlines were shared with the them and the need for prerequisite knowledge, etc. made clear to them. After two meetings of this nature, the initial curriculum for the re-education program was established. The corporation employed about 11,000 people at this facility. That number is now closer to 5000 and might drop even lower if present business plans put forward by the new CEO fail to generate the revenues to sustain growth. About 2000 of those employees work on the production line which manufactures integrated circuit chips and the associated packaging which form the core of their computer systems. These remaining individuals continue to need re-education if they are

to continue to be productive employees and work in what the corporation described at one time as, "The Factory of the Future." One of the overriding goals of the project remains to achieve a higher level of Work Station Ownership (WSO) for these individuals. This means that each employee will be able to assume more responsibility for the machine and processes they work on, and through the use of Statistical Process Control and other techniques continue to improve the processes. The corporation believed very strongly that improvements had to be made at this level, as well as at the engineering level, if the company was to remain competitive, and that intellectual tools were every bit as important as physical tools.

The initial curriculum is shown in Figure 2, page 25. It included courses in preparatory and Technical Mathematics, Chemistry, Physics, Electric Circuits, Robotics and Control Electronics, Hydraulics and Pneumatics, as well as English Composition and Study Skills. The program was to be offered in three separate phases, each with four or five courses, and each one building on the next. It was to be delivered (or taught) on five, half days per week. Each half day would include three hours of instruction and one hour of supervised tutorial/study time. Since the production lines at the facility operate on three shifts, it was decided that there would be four sessions of the program on each day to accommodate workers from all shifts. The A session begins at 8 AM and ends at noon, B session runs from noon to 4 PM, C session from 4-8 PM and D session from 8 PM to midnight. Workers would be released from their regular work assignments for the four hours of each day, and be assigned to the pro-

gram. They would return to their work assignments after attending class. The College argued against the five-day-per-week schedule, and was in favor of a three day per week schedule, since these people would be working half-time (or more with overtime) and, in effect, be attending college on a full-time basis. Initially, the College was not successful, and the program operated on a five-day-per-week schedule.

Within one year the program had been changed to three days per week, mostly in response to student complaints regarding the homework load. The program has continued to operate on a two or three-day-per-week schedule since that time. More recently, several of the classes are being scheduled for once a week meetings over a fifteen week period. Most of the courses in the curriculum were ones that were already taught at the college in our Computer Integrated Manufacturing Program (CIM).

There were a few requests from the corporation education personnel to modify course content to more closely meet their needs, and they were handled on an individual basis with the department head and faculty. In most cases an accommodation could be made that met the corporation's needs and maintained the integrity of the course. In a few instances, the accommodation was considered too severe, and it could not be made. While the corporation was never happy when they were told "no", they did understand that there was only so much that could be altered without changing the core of the academic course.

As the discussions regarding curriculum continued, it became clear that the corporation desired to have two courses which the college did not offer.

The first, Statistical Process Control, was very important to them, and the College quickly developed a three credit offering and moved it through the appropriate departmental and curriculum committee reviews. It is an offering which the Engineering Technology faculty felt should have been developed earlier, but for some reason was not. It is now a regular offering of the department. The second course which had to be developed was Industrial Organic Chemistry. This course was developed by a full-time member of the Chemistry faculty, in conjunction with the corporation personnel, and channeled through the academic department and curriculum committee for discussion and approval. The course is now officially a campus offering, however, it has been taught only in this program.

After three years of experience with the program, the College was asked to develop a three-credit course in Semi-conductors and Packaging Technologies. Again, the department head felt that this was an elective course that should have been available in the College, but had not been developed. The impetus from the corporation program caused the course to be developed and offered to the public. Here is another example where good working knowledge of your customer's business aids in the development of courses e.g. Statistical Process Control, Robotics, and Control Electronics, aids in the development of courses that serve many students in the community and not just those employed by your principle customer.

STAFFING

Finding and assigning faculty to a cooperative program is a significant problem that must be addressed at the beginning of the planning process. First, this program is heavily oriented towards math, science, and engineering technology courses. The shortage of skilled instructors in these areas is well known. It is important to solicit and evaluate an adjunct faculty to provide the core teaching staff. Full time faculty, if available, should be encouraged to accept teaching assignments in these programs, but often they are reluctant because of their perception that this assignment does not have a motivated and prepared student body and that it is, somehow, beneath their stature. They might also feel that they are no longer a part of the full time faculty on campus if much of their teaching is done at off-site locations to accommodate the corporation's employees.

Determining who of the present faculty can teach the curriculum in question and can be made available to do so, often on short notice, is best managed through the establishment of a faculty database tailored to the curriculum. This database should also include adjunct faculty from the surrounding community, and the corporation, with which you are making the alliance, is an excellent source of faculty. The corporate faculty members bring with them the industry experience that might be missing in a regular faculty members background. This is especially true in the areas of technology where specialization levels are high.

Retirees provide a rich pool of potential faculty as they have time, often

have advanced degrees, and bring to the classroom a wealth of real and theoretical experience. The clear responsibility of the institution is to assure that the person put in the classroom is knowledgeable and a competent teacher. The relationship with your corporate customer can be easily jeopardized by the wrong person in the classroom. The faculty is your best advertisement and plays the single strongest role in continuing a program. If you cannot put instructors in the classroom who are not tuned in to the full breadth of their assignment you risk an early failure of the program.

To this end it is critical that someone has the assignment to interview, hire and evaluate faculty performance during the course. It might even become necessary to intervene in the middle of a course to discuss and counsel a faculty member on where his/her performance is clashing with the culture of the customer. In an effort to head off potential problems the selection process has to include a discussion that attempts to determine the adjunct faculty member's qualifications, not only as a teacher, but in attitude towards a class that might not always have the most positive attitude and motivation for being in the classroom.

PROGRAM ADMINISTRATION

The corporation desires to have as many courses as possible taught in classrooms on their site. This eliminates travel time and mileage expenses for students, since the college is located about 15 miles from the corporation's production facility. Well equipped classrooms in the corporation education complex are available for the program. However, when courses require labora-

tory facilities, the classes meet at the DCC campus.

The College hired a program coordinator to handle most of the day-to-day details of the program, such as registration, advisement, faculty assistance and liaison with the corporation education managers.

Faculty for the program were hired in exactly the same manner as any credit instructors would be–namely recommended by the academic department head to the Academic Affairs Office. There were numerous problems in the faculty area due to the nature and schedule of the program. Finding qualified people who could meet the time constraints was not easy. Some full-time faculty have taught in the program, along with numerous adjunct faculty. The schedule and lack of lead time, the four hour class, and commuting between sites, makes it difficult for full-time faculty to teach in the program, and, some full-time faculty do not perform well in this type of program.

FACILITIES

As you can see from Figure 1, the growing enrollment at DCC is putting a strain on classroom and lab space. In the period of five years, 1987 to 1992, total enrollment had increased by 1500 students to a total of about 7700. Our corporate partner has helped with a partial solution by providing a complete classroom facility that is used for most non-laboratory lecture classes. These classrooms, located within the corporation's office facility, provide space relief, but also bring problems. Like most corporations, security is a paramount concern and a necessity in orders to protect employees, personal property, equipment, and corporate secrets. This requires that all faculty teaching within

these facilities have identification and magnetic access badges.

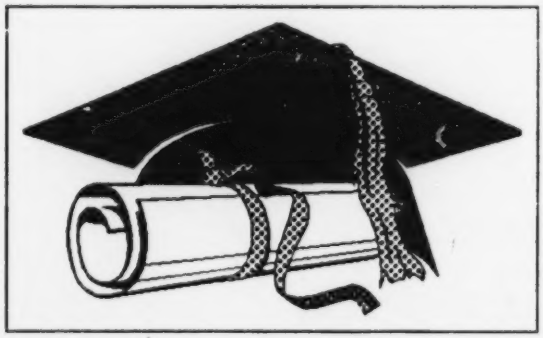
For those classes that require laboratories e.g. chemistry, physics, electronics courses, robotics, etc., it is necessary to use campus facilities. This requirement places a need for careful planning and scheduling that must be coordinated between the college and corporate customer. Unfortunately, the corporation's plan and budget commitment calendar is not synchronized with that of the college and this causes real problems in making commitments to full time faculty who will be asked to teach in the program. It is often necessary to do some "risk" scheduling in order to have faculty available, particularly when certain faculty skills are in high demand.

CREDIT versus NON-CREDIT

It is interesting to note that some individuals in the first classes thought they would only have to "show up" in order to pass the program. Imagine their surprise when, as promised, there was homework to do, and individuals were flunked out of the program, something that never happened in-service training program. Another reason for deciding on academic credit is that completion of all three phases of the program would give a person 44 credits toward a CIM degree at Dutchess Community College, leaving them about 25 credits from the A.A.S. degree (see figure 4). Since the corporation has traditionally stressed the need for education, moving a number of people toward that goal was consistent with their philosophy. The official transcript which each student receives at the end of the semester is a bonus, and something which they can take with them wherever they might go.

The initial decision to go with courses which carry academic credit, rather than with credit-free courses which have considerably more flexibility, was based on several reasons. First, the corporation was very serious about the need to re-educate these workers in order to maintain competitiveness, and the granting of college credit helped deliver the point that this was a serious program designed to meet an extremely important need. As an outside agency, the college could guarantee a level of verification or validation which was not possible with an in-service training program.

The corporation has a long-standing commitment, woven into its culture, in supporting the continued education of its employees. This program provides the employees with 75% of the credits for an AAS degree and it was hoped that this level of achievement would provide the incentive to complete the degree on their own. Data show that these students are matriculating into the college's degree granting program at approximately the 50% rate.



THE EXPERIENCE

Dutchess Community College first offered this program in the Fall of 1987. The program has been in continuous operation with courses in the various phases running throughout the calendar year. As noted earlier there have been numerous changes in the curriculum and other operational aspects of the

program during the last five and one-half years.

The curriculum currently being taught is shown in figure 3. The corporation has maintained its commitment in offering tutoring to students who are not doing well in class (see figure 4 for tutoring criteria), but has ceased funding for the one hour of supervised study/ homework time for each three hour class period. This hour of supervised study time was handled by the course instructor on a separate contract.

To date 612 students have completed Phase 1, 478 have completed Phase 2, and 255 have completed Phase 3. Students have been quite successful in the program when final grades are the criterion. Selected final grade patterns for courses in the program are included in figures 5 and 6.

The distribution of final grades awarded to students in the MTTS program is generally higher than in comparable courses offered on campus. It should be noted that individuals in this program are selected by their manager based upon a set of criteria that are performance related, that they do receive support in the form of supervised study time and tutoring, and are highly motivated to succeed based upon their desire to assure their competitive place in the workplace.In addition, the education program managers monitor the students' progress and recommend early intervention when needed.

It was noted earlier that about 50% of those individuals completing phase 3 have gone on to matriculate at DCC into the CIM program. We also have some anecdotal information that indicates that a few students have also matriculated at other two and four year colleges in the mid-Hudson area.

The program has received an award from the U.S. department of Education, which is another important measure of its success. A copy of that announcement which appeared in the local newspaper in shown in figure 6.

SOME RECOMMENDATIONS

We have found several practices that might be helpful to anyone considering a re-education program with business/industry that involves granting academic credit. These suggestions are not totally inclusive, but should form a framework for a successful program.

(1) Recognize and acknowledge that each organization has a distinct culture - a way of doing things - and that programs which carry academic credit bring more of a college's culture than do credit-free programs.

(2) Be prepared to articulate the most important aspects of your college's culture early in the discussion, and be ready to forego the program if agreement on the most basic aspects cannot be reached.

(3) Recognize that the buyer/vendor relationship which Business and Industry is comfortable with will not produce successful programs. The relationship should resemble a full partnership.

(4) Take a manager to lunch. Talk with the representatives of Business and Industry to ascertain the most important aspects of their culture - How is the organization managed? - How large is their window to acceptable teaching style? - Are there issues which they are particularly sensitive to - people failing?? - Do they really understand that homework will be required?

(5) Argue long and hard, if needed, for those programmatic issues which you are the expert on, such as schedule of classes/ pace of learning (Business and Industry generally wants the program to be delivered yesterday). You and your academic departments must hire and evaluate the faculty, whether they be full-time or adjunct. Make sure they understand that course prerequisites are important for program success, and that class size will have some impact on the quality of a program.

(6) Stress the importance of adequate planning/ lead time. The College and Business and Industry both existed prior to the partnership, and have other agendas or obligations which continue. If they want to have full-time faculty teach in the program (which many times they do and it's a mistake), they must decide to implement a program in a time frame that is consistent with the planning cycle for your regular semesters. They must be told that you are not waiting idly for them to hire you.

(7) Hire faculty who are flexible, as well as content and pedagogically competent, whether they be full or part-time. Orient the faculty so they understand that they may have to give up some of the prerogatives in this type of re-education program, because of the comparative nature of classes. Similar homework requirements and testing/ grading schemes may be needed to minimize problems.

WHERE CULTURES CLASH

Our experience has shown us that there are many problems to be overcome

when dealing with a corporate customer. Corporations, unlike the day-to-day student population has a significantly different level of expectation when entering into a contract with an academic institution. They are accustomed to writing specifications that clearly define their requirements and they also do not hesitate to specify what quality level they expect from the supplier, in this case the college. They also do not hesitate to step and take action to see that their contract is being met. This can mean observing classroom activity either directly or by student survey sheets of instructor performance, textbook selection, monitoring grade distributions, and moving of students between sections.

These are areas that colleges normally consider to be their responsibility and outside interference is seldom welcomed. A good relationship with your corporate customer, however, requires a willingness to sit and listen, discuss, and often change traditional ways of doing the business of education.

The corporation will often use its own surveys to recommend pedagogical changes that will have a faculty, accustomed to more academic freedom, rebelling against what is perceived by them to be direct interference in the classroom - something not expected from the regular college student. The choice of faculty to fit into this culture is most important. A willingness to accommodate to changes in course content, homework assignments, lecturing style, extended class hours, off site locations, and late hours requires a faculty person of more flexibility than is often found on campus. Adjunct faculty members drawn from the corporation itself provide a rich source of instructors. They come with an understanding of their own corporate culture and are less sensitive to interference.

Planning and scheduling these programs can also present special problems. The corporation usually runs its planning calendar on a very different schedule than the college. This makes scheduling classroom/lab space more complicated and an occasional irritation to the college administrative staff who believes the schedule is locked up only to discover a new round of logistics management is in the offing. A similar problem is imposed in the ordering of textbooks, student ID cards and parking permits. Some of this might sound trivial to the outside observer, but incorporating these changes on an almost continuous basis can put a strain on college resources and personnel.

Funding is another area that deserves considerable planning on the part of the college because of numerous hidden costs driven by elements discussed in the previous paragraphs. The college administration should carefully plan this aspect of the program before returning a cost proposal. These programs should not only cover all incurred costs, but include a contingency amount to cover the unexpected and a PROFIT. After all, the college is running a small business in this relationship and the profits received can be used to develop curriculum, add new lab equipment, and fund research in the whole business of college/industry relationships.

REFERENCES

Allaire, Y. & Firsirotu, M.E. **"Theories of Organizational Culture"** *Organizational Studies*, 1984, pp. 193–226.

Buono, Anthony F. & Bowditch, James L. **The Human Side of Mergers and Acquisitions**, San Francisco, Jossey Bass, 1989

Deal, T.E., Kennedy, A.A. **Corporate Cultures: The Rites and Rituals of Corporate Life**, Reading, Mass., Addison-Wesley, 1982

Raelin, Joseph A. **The Clash of Cultures: Managers and Professionals**, Boston, Harvard Business School Press, 1985

Tylor, E.B. **Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art and Custom**. New York, Holt, Rhinehart, Winston, 1971

Dutchess Community College Enrollment
vs County High School Graduates

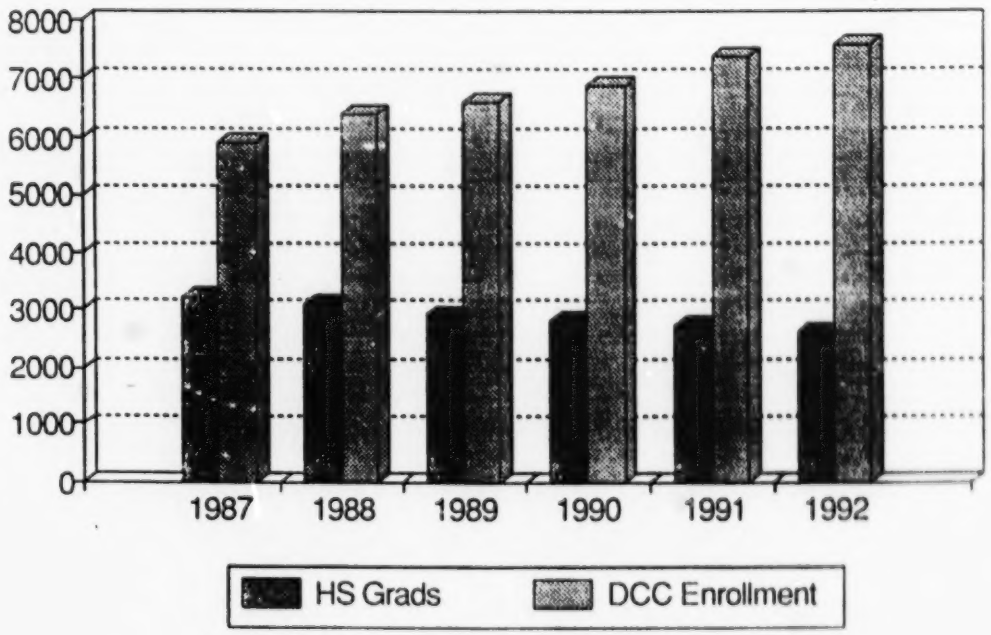


Figure 1

ORIGINAL CURRICULUM

	COURSE	NUMBER	CREDITS
Phase 1:	Intro to Study Skills	CSS 922	0
	Intro to Personal Computer	CIS 901	0
	Composition I	ENG 101	3
	Basic Algebra	MAT 091	0
Phase 2:	Technical Math II	MAT 132	3
	Intro to Chemistry	CHE 111	4
	Statistical Process Control	ENR 106	3
	Applied Mechanics	ENT 103	3
	Electric Circuits	ENT 101	4
Phase 3:	General Physics II	PHY 122	4
	Intro to Control Electronics	CIM 103	3
	Hydraulics and Pneumatics	CIM 204	3
	Robotics and Control Electronics	ELT 207	3
	Industrial Organic Chemistry	CHE 904	4

Figure 2

CURRENT CURRICULUM

	COURSE	NUMBER	CREDITS
Phase 1:	Beginning Algebra	MAT 091	0
	Technical Math I	MAT 131	3
	Technical Math II	MAT 132	3
	Composition I	ENG 101	3
	WSO 1 (Scheduled separately by WSO Coordinator)		
Phase 2:	Applied Mechanics	ENT 103	3
	Electric Circuits	ENG 101	4
	Chemistry I	CHE 111	4
	Statistical Process Control	ENR 106	3
	Industrial WSO	PHY 903	3
	WSO 2 (40 hours WSO 1 is prerequisite)		
Phase 3:	Technical Physics I	PHY 904	4
	Intro to Control Electronics	CIM 103	3
	Hydraulics and Pneumatics	CIM 204	3
	Robotics and Control Electronics	ELT 207	3
	Organic Chemistry	CHE 116	4
	Phase 3 Project		0
	Co-op Work Experience		3

TOTAL CREDITS: 46

Credits towards DCC CIM degree: 40

Figure 3

COMPUTER INTEGRATED MANUFACTURING (CIM) DEGREE PROGRAM

FIRST SEMESTER		
* ENG101	Composition I	3
* MAT132	Tech Math II	3
* ENT101	Elec Circuits	4
ENT105	Comp Aided Dft I	4
* ENT103	Applied Mech	3
Total Credits		**17**

SECOND SEMESTER		
GOV121, HIS102		
HIS104, or HGE101		3
* PHY204	Tech Phys	4
ENR103	App Inter Comp	3
* ELT207	Robotics I	3
* CHE111	Intro to Chem I	4
Physical Educ		1
Total Credits		**18**

THIRD SEMESTER		
ENG102	Composition II	3
* ENR106	Basic SPC	3
ENT106	Comp Aided Dft II	4
* CIM103	Intro Cont Elec	3
+ CIM101	Comp Int Mfg I	4
	Physical Educ	1
Total Credits		**17**

FOURTH SEMESTER		
BHS103	Soc Problems in Today's World	3
CIM202	Comp Int Mfg II	3
+ CIM206	Co-op Work Exp	3
* CIM204	Intro to Hyd/ Pneu	3
* CHE904	Organic Chem	4
HED123	Contemp Health Iss.	2
Total Credits		**18**

TOTAL CREDITS FOR DEGREE: 70

* **MTTS Course**

\+ **Credit given by DCC when student matriculates for CIM degree.**

Figure 4

TUTORING GUIDELINES

1. **Based on grades:**
   A grade of 79 or less for MATH 091 and TECH MATH 131,
   a grade of 69 or less in other courses.

   Groups are to be limited to no more than six in number when a hired tutor is used and on a one-on-one basis when peer-to-peer tutoring is done.

2. **Teacher recommendation:**
   Above rules can be modified if the instructor recommends tutoring. The corporate coordinator must aprove all teacher recommended tutoring.

3. Student failed last quiz or test and is having temporary difficulty with the subject matter even though the overall average is above the guidelines listed above.

4. **Hardship case:**
   Behind in material due to illness, accident, family concerns.

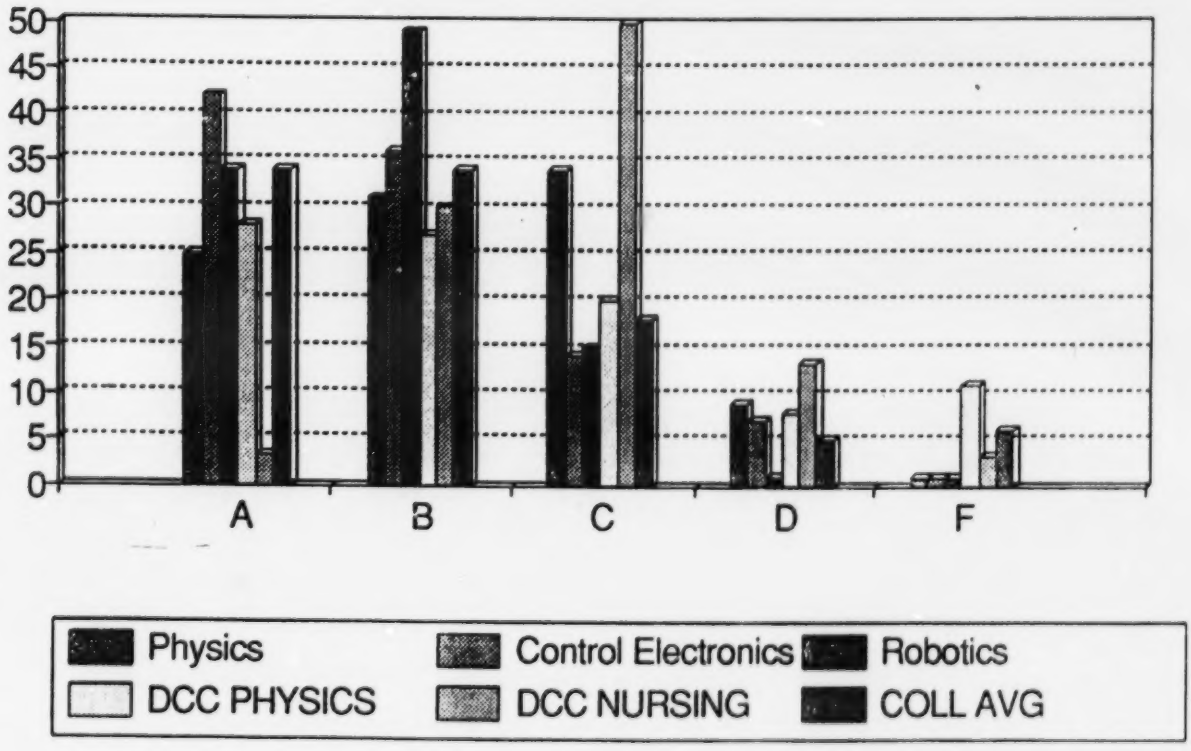
STUDENT RESPONSIBILITIES:

1. Complete as much homework as possible before attending tutoring session. Bring all materials to each session.

2. Make a list of specific questions on the topic to be covered.

3. Show up!

Figure 5



SELECTED FINAL GRADE PATTERNS
Figure 6

IBM training takes U.S. prize

By KENT GIBBONS
Journal business writer

HOPEWELL JUNCTION - A training program that helped Scott Gardner and Joyce Van Hassel get better jobs won IBM an award from the U.S. labor department.

For the second straight year, IBM has won a LIFT Award, named for Labor Investing For Tomorrow. Last year the company won for its childcare and elder care referral services. Wednesday, Big Blue won for its manufacturing skill training program.

More than 30,000 employees at 32 IBM plants are eligible, including production workers at its East Fishkill, Poughkeepsie, and Kingston sites.

The program trains workers to be more self-sufficient.

For example, at East Fishkill where IBM makes semiconductor chip and chip packages for big computers, employees learn to repair their workstations, make engineering changes to products and monitor work using statistical process control.

"That enhances their job," said Glenda Williams, who also runs the manufacturing technology training school at Eat Fishkill.

With skills from the courses, workers can compete for better technical jobs. Both Gardner and Van Hassel were promoted to technician.

"From a personal standpoint, I felt it was a way to make me more competitive," said Gardner, 28, of Red Hook. "And it's definitely made me a lot more effective at work."

Van Hassel, in her 40's, of the Town of Newburgh, said the classes were tough at first. Except for some adult education classes, this was her first school work in 25 years, she said. "I was a struggling student. But they always provided tutoring, which I took regularly."

Now she wants to get a bachelor's degree in electrical engineering after getting an associate's degree in computer-integrated-manufacturing from Dutchess Community College, which teaches the courses for IBM. Employees earn college credit as well. Gardner said she is two courses shy of a degree.

Classes are done on company time, 12 hours a week, and the program lasts about two and a half years.

POUGHKEEPSIE JOURNAL - 9/31/91

LIFT Award From U.S. Department of Labor
FIGURE 7

APPENDIX I

Realin's Mediation Strategies for Merging Professional and Management Values

PROFESSIONALS' COMPLAINTS	MEDIATION STRATEGIES	MANAGEMENTS' COMPLAINTS
Managers who require overspecialization	Linkage devices Open internal labor market policy	Professionals who wish to remain over-professionalized
Managers who under specify ends but over specify the means of practice and who expect adherence to the organizational hierarchy	The dual ladder Transition to management Managing ends not means Professional participation	Professionals who demand autonomy over and participation in ends as well as means
Managers who maintain close supervision	Self-management and peer control Professional administration Management by Objectives (MBO) Gatekeeping Professional incentives	Professionals who resist close supervision by insisting on professional standards of evaluation
Managers who show respect for authority and who believe in formalizing control of professional practice	Decentralization Matrix Soft control	Professionals who might defy authority or disregard organizational procedures
Managers who, in the interest of career and teamwork, condone jobs lacking challenge, entrepreneurship, personalness, and stability	Job enrichment Entrepreneurship Personalness Employment stability	Professionals who, in the interest of quality of life and individual initiative, display little regard for real-world practice
Managers who strive for corporate efficiency	Promoting ethical consciousness Ethical process and structure Institutionalization	Professionals who retain an overriding interest in ethical responsibility

AUTHOR PROFILES

Dr. Gary C. Pfeifer

Dr. Gary C. Pfeifer is presently Associate Dean for Academic Affairs at Dutchess Community College in Poughkeepsie, New York. He has held this post since 1983 and has been with the college in various teaching and administrative posts since 1968. He holds the Doctorate in Education degree from the University of Albany (SUNY), New York and the B.S. and M.S. degrees from North Dakota State University where he majored in business economics.

His responsibilities include a major role in planning and managing all aspects of the academic programs for the college which has a total enrollment of over 7000. He has a special interest in the development of new programs to assist local industries in improving their competitive positions through employee re-training programs.

Mr. Charles E. Carlson

Mr. Carlson joined Dutchess Community College in the Fall of 1991 as Director of Industry Education Programs. He holds a Master of Science in physics and spent the previous 25 years as a manager with the International Business Machines Corporation (IBM). During that time he held a variety of management positions throughout the corporation including the areas of product assurance, manufacturing, production control, product development, finance and planning, world trade liaison management, and was one of the initial faculty members of IBM's Manufacturing Technology Institute which was then located in New York City.

He has a keen interest in continuing to foster education and re-training at all levels of business and industry and is especially interested in those areas leading to direct and measurable results in the work place, higher employee satisfaction through job ownership, and an empowered management and production workforce.